



MAN eManager Service Specification

General information

MAN eManager is a charging-management service that enables users to plan departure times for their vehicles in advance. Particularly in the event of extreme temperatures, and if required, the optional pre-setting of a certain temperature in the passenger area can help to prevent a reduction in range caused by the air-conditioning system. It also ensures that there is already a suitable temperature in the passenger area by the time the bus leaves the depot.

The user can generally choose between immediate and timer-based charging-management options. With both options, the vehicle battery charges until it reaches 100%. If a fault occurs during charging and this information is available for the vehicle, the user will be notified accordingly in the RIO system.

With immediate charging, the vehicle will always start to charge as soon as it is connected to a charging station with power available. In the RIO system's overview, the user will see how long the vehicle battery will continue to charge before reaching its 100% SoC after connection to a charging station.

With timer charging, the user can save various departure times for each vehicle. The next due departure time is transmitted to the vehicle. If the vehicle is connected to a charging station, the charging process is automatically started at the optimum time to ensure that the vehicle is ready for operation at the time of departure. If the vehicle is connected to a charging station shortly before the departure time, charging will start automatically, although the vehicle might not be ready for operation at the intended departure time. In this case, among other things, the user will see the new, delayed departure time in the RIO system's overview. At the end of the charging process, the next due departure time will be transmitted to the vehicle.

MAN eManager can only be ordered for the MAN Lion's City E.

In order for the service to be operational, it is necessary for the vehicle to be reachable via a radio connection for the requisite configuration.

Service overview

After MAN eManager has been successfully activated, the following MAN eManager services for the MAN Lion's City E will be available for use:

Functionality/data	MAN Lion's City E
Overview table of all electric vehicles (for which the service has been ordered) in the fleet with the following information:	X
State of charge (SoC) in % for each vehicle (Prerequisite: vehicle connected to charging station)	X
Estimated remaining range in km for each vehicle (Prerequisite: vehicle connected to charging station)	X



<p>Visible charging status of HV battery for each vehicle:</p> <ul style="list-style-type: none"> - Not connected (vehicle is not connected to a charging station) - Connected (vehicle is connected to a charging station) - Charging (vehicle is connected to a charging station and is charging) includes a forecast of the end time for the charging process (in immediate and timer charging mode) and indication of delays (only in timer charging mode) - Charged (vehicle is connected to a charging station and has finished charging) - Fault (vehicle is connected to a charging station and has encountered a fault while charging) - Unknown (the current charging status is unknown) 	<p>X</p>
<p>Indication of the saved charging configuration accepted by the vehicle (immediate charging, timer charging with next due departure time, desired pre-set temperature) for each vehicle</p>	<p>X</p>
<p>Indication of each vehicle's operational readiness once the charging process is complete</p>	<p>X</p>
<p>The following vehicle functions are independently initiated by MAN eManager when an appropriate selection is made in your vehicle's RIO system:</p> <p>Setting of the HV battery's charging configuration for each vehicle in the RIO system (The vehicle always charges until the battery's state of charge is 100%)</p> <p>When selecting the charging mode:</p> <ol style="list-style-type: none"> 1. Immediate charging In this configuration, the vehicle will always start to charge once it is connected to a charging station with power available. 2. Timer charging In this configuration, the user can add multiple timers, whereby each timer contains at least one weekday and precisely one departure time <p>When selecting the air-conditioning mode: For each vehicle, the user can pre-set the temperature control in the passenger area for immediate and timer charging (on/off). Doing so can cause the vehicle to draw more energy from the charging station.</p>	<p>X</p>

MAN Truck & Bus SE



Prerequisite for data transfer

If the vehicle does not display the status “Ignition on” or “Charging”, it can receive new charging configurations approximately every **60 minutes**. As such, it can take up to **60 minutes** after sending a charging configuration before this is received by the vehicle and a feedback signal is sent to the RIO system.

If the vehicle does not have a mobile communication connection due to the network being down, for example, it is not possible for the charging configuration to be transmitted. In this case, and at any other time, the user can initiate immediate charging on the vehicle itself.

Information on the battery’s state of charge and the estimated remaining range is transmitted in an event-based manner – as opposed to cyclically – and is only displayed in the RIO system if the vehicle is connected to a charging station. The user can view the time stamp in the table at any time to verify that the information displayed is current.

Technical requirements

To be able to use the MAN eManager, the vehicles must be equipped as follows:

	MAN Lion’s City E
Use of a RIO Box (provision not covered by the Service T&Cs)	X
VCM (Vehicle Connectivity Manager)	X
ePTM (electric Power Train Manager)	X

User workplace equipment:

- Use of an Internet-capable device such as a computer (not provided by RIO) running the Windows 7 operating system or later
- Internet browser (we recommend using the latest version of the following browsers: Google Chrome, Mozilla Firefox, Microsoft Internet Explorer, Microsoft Edge. We cannot guarantee unrestricted functionality if using other browsers.)